COURSE OVERVIEW

The course will cover the following major topics;

- **CFD workflow & mesh strategies:** Mesh strategies for 2D/3D, quality metrics, and hands-on mesh generation for simple and wavy surfaces in Workbench.
- **Complex/wavy surface meshing:** Non-conformal and periodic zones with hands-on meshing of a cylinder or wavy bluff body.
- **2D unsteady flow past cylinder/bluff body:** Hands-on transient setup covering geometry creation, meshing, and time-step selection.
- **Post-processing & Strouhal number:** Extraction of lift/drag oscillations, FFT analysis, Strouhal number calculation, and ANSYS square-cylinder demo.
- **2D heat transfer and periodic BCs:** Study simple 2D heat flow with Nusselt number checks at a T-junction and learn basic periodic boundary setup on a cylinder bank in Fluent using TUI.
- **Conjugate heat transfer and buoyancy-driven flow:** Fins on walls, solid–fluid coupling, and natural convection simulations including T-junction CHT and triangular/cavity flows.
- **Turbulence and radiation modelling:** Learn common turbulence models, basic LES/WMLES, and key radiation models (DO, S2S, P-1, MC, view factor) for natural convection with radiation.

Hands-on Session will be delivered by expert from ARK Infosolutions.

Coordinators

Dr. Sushil Kumar Rathore, ME (Mobile: +919474828662,rathoresk@nitrkl.ac.in)
Dr. Jnana Ranjan Senapati, ME (Mobile: +919547147576, senapatijr@nitrkl.ac.in)
Dr. Suman Ghosh, ME (ghoshs@nitrkl.ac.in)

National Institute of Technology, Rourkela
Rourkela -769008, Odisha

ABOUT NIT ROURKELA

The National Institute of Technology Rourkela (NIT Rourkela) is an Institute of National Importance, established under an Act of Parliament. It is committed to providing quality education in a diverse and multicultural environment. The institute's mission is to become an internationally recognized center of higher learning that serves as a source of knowledge and expertise for society, and a preferred destination for undergraduate and postgraduate studies. Its vision is to advance and disseminate knowledge in science and technology for the creation of wealth and the welfare of humanity.

NIT Rourkela offers undergraduate, postgraduate, and doctoral programs in 21 branches of engineering, along with active research centres engaged in consultancy and sponsored projects. The institute collaborates extensively with national agencies such as DST, DAE, CSIR, DRDO, BARC, and ISRO, as well as with leading private industries, to promote innovation and technological advancement.

NIT ROURKELA RANKINGS

Source: https://nitrkl.ac.in/About/Rankings

2025	Ranked 13 in NIRF Engineering
2025	Ranked 34 in NIRF Overall
2025	Times Higher Education World University Ranking has placed NIT Rourkela at 601-800
2025	Times Higher Education Asia University Ranking has placed NIT Rourkela at 191
2025	Times Higher Education Impact Ranking has placed NIT Rourkela at 401-600

A FIVE DAY SKILL / FACULTY DEVELOPMENT WORKSHOP
on

APPLIED CFD AND MULTIPHYSICS MODELLING HANDS-ON WITH ANSYS FLUENT

Jan 27-31, 2026
(Online Mode)

Patron
Prof. K. Umamaheshwar Rao,
Director, NIT Rourkela

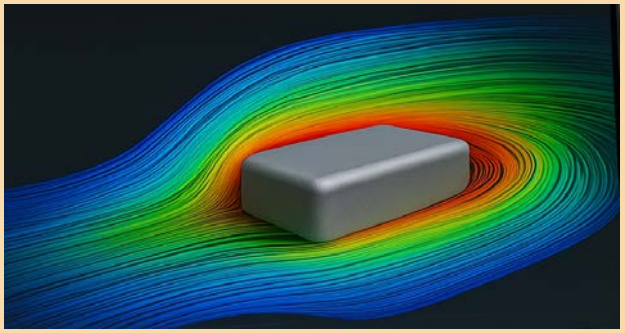
Chairman
Prof. S. K. Patel, HOD-ME

Coordinators
Dr. Sushil K. Rathore, ME
Dr. Jnana R. Senapati, ME
Dr. Suman Ghosh, ME

Department of Mechanical Engineering
& Department of Chemical Engineering
National Institute of Technology
Rourkela – 769008

DEPARTMENTS OF MECHANICAL ENGINEERING

The Departments of Mechanical at NIT Rourkela are premier centre for education and research. The Mechanical Engineering Department, comprising divisions in Design, Manufacturing, and Thermal Engineering, excels in vibrations, robotics, heat transfer, CFD, and cryogenics. Department undertakes major R&D projects funded by ISRO, BRNS, DST, ARDB, BRFST, DRDO, etc. fostering innovation and interdisciplinary research in energy, environment, and advanced technologies.



ELIGIBILITY

Participation in this workshop is open to Post Doctoral Fellows, Research Scholars/ PG/ UG students and Faculty of recognized technical institutes, Researchers from the research laboratory, Industrial Person/Engineers and any other interested personnel. The successful participants will be given a participation certificate.

IMPORTANT DATES

The last date for registration is 25/01/2026.

TARGET AUDIENCE

The selected applicants will be provided a secured meeting code of the web platform one day before the commencement of course.

ADDRESS FOR CORRESPONDENCE:

Dr. Sushil Kumar Rathore
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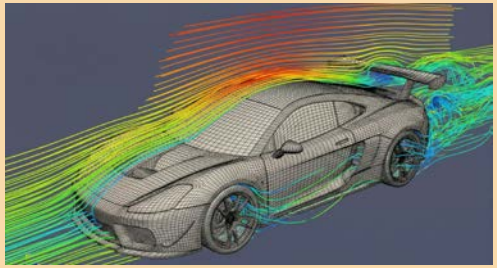
National Institute of Technology, Rourkela
Rourkela-769008, Odisha, India
Contact No. +91-9474828662
Email-id: rathoresk@nitrkl.ac.in



COURSE FEE (in INR)

Student:	990/-
Academic faculties:	1500/-
Industry professionals:	1500/-

***INCLUSIVE OF GST**

REGISTRATION FORM

For registration use the following link:

https://forms.gle/G7UqFV2GG19HwCJA8

MODE OF PAYMENT (ONLINE ONLY)

Please transfer the Fee amount to the following bank account (details given below). Attach the payment receipt along with the google form for registration (link mentioned above).

Name: CONTINUING EDUCATION NIT ROURKELA

Acct. No.: 10138951784
Bank: State Bank of India
Branch: NIT Campus Rourkela
IFS Code: SBIN0002109

UPI ID: 01389517841@sbi

Merchant Name: Continuing Education NIT
Online certificates will be given to the participants who attend all sessions of the course.

FOR FURTHER ASSISTANCE

Student coordinators:

- Vishwakarma (+91-8517015088)
- Mishel (+91-9544969796)